

**THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE
ARTICLE 34 AMENDED SHEETS (Pages 19 and 33-37a)**

AS ENCLOSED TO IPER

Group (i) includes monoethylenically unsaturated C₃-C₈-monocarboxylic acids, such as, for example, acrylic acid, methacrylic acid, crotonic acid and vinylacetic acid. From group
5 (i), preference is given to using acrylic acid and methacrylic acid.

Group (ii) includes monoethylenically unsaturated C₂- to C₂₂-olefins, vinyl alkyl ethers having C₁- to C₈-alkyl groups, styrene, vinyl esters of C₁- to C₈-carboxylic acids, (meth)acrylamide and vinylpyrrolidone. From group (ii), preference is given to using C₂-
10 to C₆-olefins, vinyl alkyl ethers having C₁- to C₄-alkyl groups, vinyl acetate and vinyl propionate.

If the polymers of group (ii) contain copolymerized vinyl esters, some or all of the latter can also be present in hydrolyzed form to give vinyl alcohol structural units. Suitable co-
15 and terpolymers are known, for example, from DE-A 4313909.

Group (iii) includes (meth)acrylic esters of C₁- to C₈-alcohols, (meth)acrylonitrile, (meth)acrylamides of C₁- to C₈-amines, N-vinylformamide and N-vinylimidazole.

20 Also suitable as organic cobuilders are homopolymers of monoethylenically unsaturated C₃-C₈-monocarboxylic acids, such as, for example, acrylic acid, methacrylic acid, crotonic acid and vinylacetic acid, in particular acrylic acid and methacrylic acid;

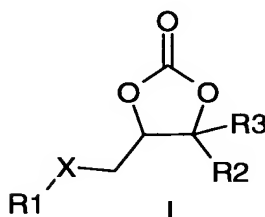
copolymers of dicarboxylic acids, such as, for example, copolymers of maleic acid and
25 acrylic acid in the weight ratio 10:90 to 95:5, particularly preferably those in the weight ratio 30:70 to 90:10 with molar masses of from 1000 to 150 000;

terpolymers of maleic acid, acrylic acid and a vinyl ester of a C₁-C₃-carboxylic acid in the weight ratio 10 (maleic acid) :90 (acrylic acid + vinyl ester) to 95 (maleic acid) :10 (acrylic
30 acid + vinyl ester), where the weight ratio of acrylic acid to the vinyl ester can vary within the range from 30:70 to 70:30;

copolymers of maleic acid with C₂-C₈-olefins in the molar ratio 40:60 to 80:20, copolymers of maleic acid with ethylene, propylene or isobutene in the molar ratio 50:50
35 being particularly preferred.

We claim:

- 5 1. Alkylglycidol carbonates of the formula I



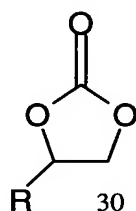
in which the symbols X, R¹, R² and R³ have the following meanings:

- 10 R¹ is a linear or branched, unsubstituted C₃-C₂₉-alkyl group or a linear or branched, unsubstituted C₃-C₂₉-alkenyl group, wherein the substituent R¹ has an average degree of branching which is defined as (number of methyl groups per molecule)-1 of from 0.2 to 1.6;

- 15 R² and R³, independently of one another, are hydrogen or a linear or branched alkyl group;

- X is chosen from the group consisting of O, O(CH₂CHR⁴O)_n, S, NR⁵, COO and CONH, in which R⁴ and R⁵ are hydrogen, methyl, ethyl or propyl, and n is a number from 1 to 5, where mixtures of compounds with groups X of the formula O(CH₂CHR⁴O)_n are also included by the formula I, in which n has various numerical values,

wherein alkylglycidol carbonates of formula



, wherein R is CH₂-O-CH(CH₃)₂ are excluded.

2. Compounds as claimed in claim 1, wherein in formula I the symbols X, R¹, R² and R³ have the following meanings:

R¹ is a linear or branched C₃-C₁₈-alkyl group or a linear or branched C₃-C₁₈-alkenyl group, wherein the substituent R¹ has an average degree of branching of from 0.2 to 1.6;

R² and R³, independently of one another are hydrogen or a linear or branched alkyl group having 1 to 5 carbon atoms; and

X is O, O(CH₂CHR⁴O)_n or NR⁵, in which R⁴ and R⁵ are hydrogen, methyl, ethyl or propyl and n is a number from 1 to 5, where mixtures of compounds with groups X of the formula O(CH₂CHR⁴O)_n are covered by the formula I, in which n can have various numerical values.

3. Compounds as claimed in claim 1 or 2, wherein

R¹ is a linear or branched C₅-C₁₈-alkyl group or a linear or branched C₅-C₁₈-alkenyl, wherein the substituent has an average degree of branching of from 0.2 to 1.6; and

at least one of the radicals R² or R³ is hydrogen.

4. Compounds as claimed in any of claims 1 to 3, wherein R² and R³ are hydrogen.

5. Compounds as claimed in claim 4, wherein R¹-X is C₅H₁₁CH(C₃H₇)CH₂O, or a radical based on a technical-grade C₁₃-C₁₅-oxo alcohol or a technical-grade or native C₁₂-C₁₄-alcohol or a C₁₀- or C₁₃-alcohol and having a degree of branching of about 1.5.

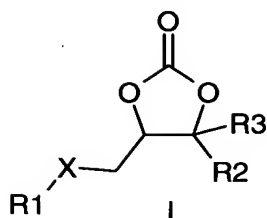
6. Compounds as claimed in claim 5, in which R¹-X is C₅H₁₁CH(C₃H₇)CH₂O, and which are present as a mixture, in which

70 to 99% by weight of compounds in which C₅H₁₁ has the meaning n-C₅H₁₁ are present and

1 to 30% by weight of compounds in which C₅H₁₁ has the meaning C₂H₅CH(CH₃)CH₂ and/or CH₃CH(CH₃)CH₂CH₂ are present.

7. Alkylglycidol carbonates of the formula I

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in which the symbols X, R¹, R² and R³ have the following meanings:

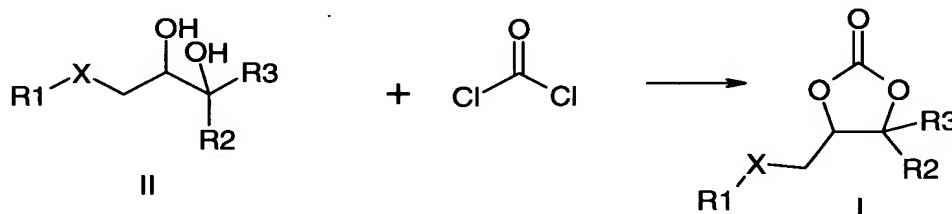
R¹ is a linear or branched, unsubstituted C₃-C₂₉-alkyl group or a linear or branched, unsubstituted C₃-C₂₉-alkenyl group, preferably a linear or branched C₃-C₁₈-alkyl group, more preferably a linear or branched C₅-C₁₈-alkyl group or a linear or branched C₅-C₁₈-alkenyl;

R² and R³, independently of one another, are hydrogen or a linear or branched alkyl group, preferably independently of one another are hydrogen or a linear or branched alkyl group having 1 to 5 carbon atoms, more preferably at least one of the radicals R² or R³ is hydrogen, most preferably R² and R³ are hydrogen;

X is chosen from the group consisting of O(CH₂CHR⁴O)_n, S, NR⁵ and CONH, in which R⁴ and R⁵ are hydrogen, methyl, ethyl or propyl, and n is a number from 1 to 5, where mixtures of compounds with groups X of the formula O(CH₂CHR⁴O)_n are also included by the formula I, in which n has various numerical values.

8. Compounds as claimed in claim 7, wherein the substituent R¹ has an average degree of branching which is defined as (number of methyl groups per molecule)-1 of from 0 to 2.5, preferably 0.2 to 1.6.

9. A method for producing alkylglycidol carbonates as claimed in any of claims 1 to 8, by reacting 1,2-diols of the formula II and functionalized with an R¹-X-CH₂ group with phosgene in accordance with the following reaction scheme:



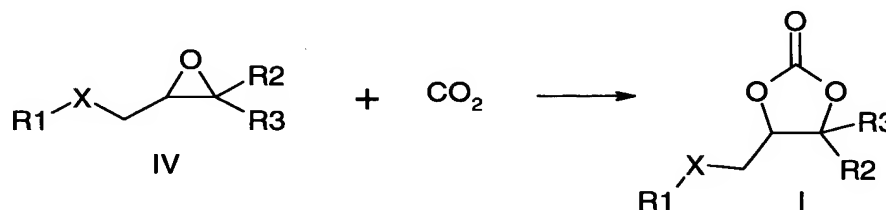
in which the symbols X, R¹, R² and R³ have the following meanings:

R^1 is a linear or branched, unsubstituted C_3 - C_{29} -alkyl group or a linear or branched, unsubstituted C_3 - C_{29} -alkenyl group;

R^2 and R^3 , independently of one another, are hydrogen or a linear or branched alkyl group;

X is chosen from the group consisting of O, $O(CH_2CHR^4O)_n$, S, NR^5 , COO and CONH, in which R^4 and R^5 are hydrogen, methyl, ethyl or propyl, and n is a number from 1 to 5, where mixtures of compounds with groups X of the formula $O(CH_2CHR^4O)_n$ are also included by the formula I, in which n has various numerical values.

10. A method for producing alkylglycidol carbonates as claimed in any of claims 1 to 8, by reacting epoxides of the formula IV according to the following reaction scheme with CO_2 using a catalyst:



in which the symbols X, R^1 , R^2 and R^3 have the following meanings:

R^1 is a linear or branched, unsubstituted C_3 - C_{29} -alkyl group or a linear or branched, unsubstituted C_3 - C_{29} -alkenyl group;

R^2 and R^3 , independently of one another, are hydrogen or a linear or branched alkyl group;

X is chosen from the group consisting of O, $O(CH_2CHR^4O)_n$, S, NR^5 , COO and CONH, in which R^4 and R^5 are hydrogen, methyl, ethyl or propyl, and n is a number from 1 to 5, where mixtures of compounds with groups X of the formula $O(CH_2CHR^4O)_n$ are also included by the formula I, in which n has various numerical values.

11. A method as claimed in claim 10, wherein the epoxide of the formula IV is produced by reacting epichlorohydrin with suitable alcohols, thiols, alcohols reacted with alkylene oxides, amines, carboxylic acids, their esters or their carboxamides and subsequent or simultaneous elimination of HCl.
- 5 12. A method as claimed in claim 11, wherein the suitable alcohols, thiols, alcohols reacted with alkylene oxides, amines, carboxylic acids or their esters or carboxamides are chosen from linear or branched aliphatic C₃-C₂₉-alcohols with an average degree of branching which is defined as (number of methyl groups per molecule)-1 of from 0 to 2.5, where the alkyl chain can have further substituents which increase the suitability of the molecule as cosurfactant, but at least do not negatively influence it, Guerbet alcohols and their unsaturated analogs, and the substituted thiols corresponding to the suitable alcohols, alcohols reacted with alkylene oxides, amines, carboxylic acids and their carboxamides.
- 10 13. The use of alkylglycidol carbonates claimed in any of claims 1 to 8 or a mixture thereof as cosurfactant.
- 15 14. A household detergent, household cleaner, body-cleansing composition or bodycare composition comprising at least one alkylglycidol carbonate as claimed in any of claims 1 to 8.
- 20 15. A detergent as claimed in claim 14 in solid, liquid, gel or paste form, preferably in the form of a powder, compact, granules, tablet or gel.
- 25 16. A detergent as claimed in claim 14 or 15, comprising 0.1 to 40% by weight, in particular 0.5 to 30% by weight, very particularly 1 to 20% by weight, based on the total amount of the formulation, of at least one alkylglycidol carbonate as claimed in any of claims 1 to 8.
- 30 17. A household cleaner as claimed in claim 14 in liquid, gel or solid form, preferably in the form of a liquid, gel, powder or compact.
- 35 18. A household cleaner as claimed in claim 17 in the form of a hand dishwashing detergent, machine dishwashing detergent, metal degreaser, glass cleaner, floor cleaner, all-purpose cleaner, high-pressure cleaner, alkaline cleaner, acidic cleaner,

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spray degreaser, dairy cleaner, upholstery cleaner, plastic cleaner and bathroom cleaner.

19. A household cleaner as claimed in claim 17 or 18, comprising 0.01 to 40% by
5 weight, preferably 0.1 to 25% by weight, based on the total formulation, of at least
one alkylglycidol carbonate as claimed in any of claims 1 to 8.
20. A body-cleansing composition or bodycare composition in the form of a shampoo,
shower or bath gel, shower or bath lotion, a lipstick, a cosmetic formulation with
10 care and/or conditioning properties or a styling product, in particular a liquid soap,
a care cream, a hair foam, hair gel, hair spray or after-treatment composition, a hair
tonic, a lotion, treatment rinse, treatment pack, a split-end fluid, hair repair
composition, hot oil treatment, hair-setting composition, hair colorant or permanent
waving agent, comprising at least one alkylglycidol carbonate as claimed in any of
15 claims 1 to 8.